

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Louis B. Rosenberg
Application No. : 09/823,943
For : **Haptic Remote Control for Toys**
Filed : March 30, 2001
Examiner : Urszula M. Cegielnik
Art Unit : 3711

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDED APPEAL BRIEF

Sir:

This is an Amended Appeal Brief filed under 37 C.F.R. § 41.37 in connection with the final rejection of claims 45-58 in the Final Office Action mailed January 7, 2009 (hereinafter the “Final Office Action”) and in response to the Notice of Non-Compliant Appeal Brief mailed September 18, 2009. Each of the topics required by 37 C.F.R. § 41.37 is presented herewith and labeled appropriately.

Real Party in Interest

The real party in interest in the present application is the assignee, Immersion Corporation, 801 Fox Lane, San Jose, California 95131 (hereinafter “Appellant”).

Related Appeals and Interferences

Appellant and the Appellant's legal representative know of no appeals or interferences that will directly affect, will be directly affected by, or have a bearing on the Board's decision in this appeal.

Status of Claims

Claims 45-58 are pending in this application and are the substance of this appeal. Claims 1-44 were cancelled during prosecution.

Status of Amendments

Applicant has not sought to amend any claims following the mailing of the Final Office Action.

Summary of the Claimed Subject Matter

Claim 45 is the sole pending independent claim.

Claim 45 recites a device that is generally useful for controlling a remote-controlled device, and providing haptic feedback to the user associated with a state, or the status, of the remotely-controlled device.¹ For example, in one embodiment, the claimed device may be a remote control that can generate a haptic effect when a remotely-controlled vehicle, such as a remote-controlled car, strikes an object.² In such an embodiment, other status information may be detected by the remotely-controlled device and sent to the remote control, including a degree of contact, an amount of acceleration experienced by the remotely-controlled device, a tight turn, an amount of braking, or other states of the remotely-controlled device.³ Such a remote control may provide a user with a richer experience for a user controlling a remotely-controlled device.

Claim 45 first recites "a housing" and "a manipulandum disposed within the housing, and operable to cause a control signal to be sent to a remotely-controlled device." For example, the manipulandum may be a joystick or lever, or another input device, such as buttons, steering

¹ See, e.g., Specification, Paragraph 8.

² See, e.g., Specification, Paragraph 6.

³ See, e.g., Specification, Paragraphs 6, 42, and 43.

wheels, knobs, dials, trackballs, and other types of manipulanda.⁴ The manipulandum may be employed to control a remotely-controlled device, such as a remote-control car.⁵

The device of claim 45 further comprises “a plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum.” The actuator may be one of many different kinds of actuators, including without limitation eccentric rotating masses, linear voice coil actuators, or solenoids.⁶ The actuator generates haptic effects based on a received actuator signal. Further, a plurality of actuators may be coupled to the housing, and the actuators may correspond to the locations of sensors on the remotely-controlled toy.⁷

Claim 45 further recites “a receiver disposed within said housing and operable to receive a sensor signal from the plurality of sensors configured to sense a state of said remotely-controlled device.” The receiver allows the remote control device to receive status information from the remotely-controlled toy and the remote control device may then generate haptic effects based on the status information.⁸ For example, one or more sensors may be mounted on a remotely-controlled toy, such as a remote-controlled car.⁹ In such an embodiment, a sensor may be mounted on the right side of the car, which may cause a signal to be transmitted to the remote control when the car collides with an object.¹⁰

Claim 45 finally recites “a processor disposed within said housing in communication with said plurality of actuators and said receiver, said processor operable to generate an actuator signal associated with said state of said remotely-controlled device, said actuator signal operable to cause at least one of said actuators to output said haptic sensation.” The specification that the remote control device can include a processor.¹¹ The processor may receive the signal from the receiver and generate an actuator signal, based on the signal, configured to cause the actuator to

⁴ See, e.g., Specification, Paragraph 18.

⁵ See, e.g., Specification, Paragraphs 18, 21.

⁶ See, e.g., Specification, Paragraphs 37, 38.

⁷ See, e.g., Specification, Paragraphs 20, 52.

⁸ See, e.g., Specification, Paragraph 19, 48-49.

⁹ See, e.g., Specification, Paragraph 19, 49-50.

¹⁰ See, e.g., Specification, Paragraphs 48-51.

¹¹ See, e.g., Specification, Paragraph 22, 60.

output a haptic effect.¹² For example, the processor may generate an actuator signal that may cause the actuator to shake the remote control to indicate a collision.¹³

The above description of the claimed subject matter is intended to provide the reader with an overview of embodiments of the present invention, but is not intended to in any way limit the scope of the claimed invention.

Grounds of Rejection to be Reviewed on Appeal

There are two issues presented for appeal:

(1) Did the Examiner err in rejecting claims 45-51 and 55-58 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2002/0103025 to Murzanski et al (“Murzanski”) in view of U.S. Patent No. 6,346,025 to Tachau et al (“Tachau”)?

(2) Did the Examiner err in rejecting claims 52-54 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Murzanski in view of Tachau and further in view of U.S. Patent No. 4,964,837 to Collier (“Collier”).

Argument

Issue 1: Whether the Examiner erred in rejecting claims 45-51 and 55-58 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Murzanski in view of Tachau.

Because the combination of Murzanski in view of Tachau does not disclose or suggest “a plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum” as recited in claim 45, claim 45 is patentable over Murzanski in view of Tachau.

To establish *prima facie* obviousness of a claimed invention under 35 U.S.C. § 103, the Office Action must show, either from the references themselves or in the knowledge generally

¹² See, e.g., Specification, Paragraph 22, 48-52, 60.

¹³ See, e.g., Specification, Paragraphs 48-75.

available to one of ordinary skill in the art, that the cited references disclose or suggest each claimed element.¹⁴

Murzanski teaches a controller for an electronic gaming system.¹⁵ The controller in Murzanski includes an actuator for outputting forces.¹⁶ However, the controller is configured to be connected to an electronic gaming system.¹⁷ Such a system is not disclosed to have sensors to sense its state. Rather, forces are output to correspond to events occurring in a video game executed by the gaming system. The gaming system does not employ sensors to detect changes of state in the video game, but rather the changes in state are determined by the execution of the gaming software.¹⁸ As such, because Murzanski does not disclose or suggest a plurality of sensors, it cannot disclose that actuators may correspond to the plurality of sensors. Further, because the use of sensors in the electronic gaming system is not contemplated by Murzanski, it cannot fairly be said to suggest the use of actuators corresponding to the sensors.

The addition of Tachau's teachings to the teachings of Murzanski does not cure the lack of disclosure or suggestion of "a plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum" as recited in claim 45. In addition to the teachings of Murzanski, Tachau generally teaches toys that include sensors and actuators¹⁹, and that toys may be controlled using a remote control device²⁰. However, Tachau does not disclose that a plurality of actuators correspond with a plurality of sensors. Tachau only discloses that an actuator may be activated if an event is sensed, which is not the same as "a plurality of actuators corresponding to a plurality of sensors."

Thus, because Murzanski does not disclose or suggest the use of sensors at all, and Tachau does not teach a plurality of actuators corresponding to a plurality of sensors, the combined scope of the two references cannot teach "a plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-

¹⁴ See MPEP §§ 2141 and 2143; *Graham v. John Deere Co.*, 383 U.S. 1 (1966); *KSR Int'l Co. v. Teleflex, Inc.*, 82 U.S.P.Q.2d at 1395-96. *Graham v. John Deere Co.*, 383 U.S. 1 (1966); *KSR Int'l Co. v. Teleflex, Inc.*, 82 U.S.P.Q.2d at 1395-96.

¹⁵ See Murzanski, *e.g.*, Abstract.

¹⁶ See Murzanski, *e.g.*, Paragraphs 31-34.

¹⁷ See Murzanski, *e.g.*, Abstract, Paragraph 22.

¹⁸ See Murzanski, *e.g.*, Paragraph 29.

¹⁹ See Tachau, *e.g.*, col. 17:45-18:5.

²⁰ See Tachau, *e.g.*, col. 9:62-10:13.

controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum” as recited in claim 45. Therefore, claim 45 is patentable over the combined references. Applicant respectfully requests the Board reverse the rejection of claims 45.

Because claims 46-51 and 55-58 depend from and further limit claim 45, claims 46-51 and 55-58 are each patentable over Murzanski in view of Tachau for at least the same reasons. Applicant respectfully requests the Board reverse the rejection of claims 46-51 and 55-58.

Issue 2: Whether the Examiner erred in rejecting claims 52-54 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Murzanski in view of Tachau and further in view of Collier.

Because the combination of Murzanski in view of Tachau and further in view of Collier does not disclose or suggest “a plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum” as recited in claim 45, from which claims 52-54 depend, claims 52-54 are patentable over Murzanski in view of Tachau and Collier.

To establish *prima facie* obviousness of a claimed invention under 35 U.S.C. § 103, the Office Action must show, either from the references themselves or in the knowledge generally available to one of ordinary skill in the art, that the cited references disclose or suggest each claimed element.²¹

As discussed above, Murzanski in view of Tachau does not disclose or suggest “a plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum.” Collier does not cure this deficiency. Collier discloses the use of a sensor within a remotely-controlled vehicle to detect when the vehicle strikes an obstacle, however, the sensor signal is used to play a sound on a speaker within the vehicle. Collier does not disclose or suggest alone or in combination with Murzanski and Tachau “a plurality of actuators coupled to said housing, said plurality of actuators

²¹ See MPEP §§ 2141 and 2143; *Graham v. John Deere Co.*, 383 U.S. 1 (1966); *KSR Int’l Co. v. Teleflex, Inc.*, 82 U.S.P.Q.2d at 1395-96. *Graham v. John Deere Co.*, 383 U.S. 1 (1966); *KSR Int’l Co. v. Teleflex, Inc.*, 82 U.S.P.Q.2d at 1395-96.

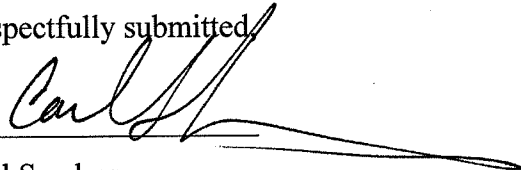
corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum” as recited in claim 45, from which claims 52-54 depend. Applicant respectfully requests the Board reverse the rejection of claims 52-54.

CONCLUSION

Applicant respectfully asserts that in view of the arguments above, all pending claims are allowable, and Applicant respectfully requests the Board reverse the each of the Examiner’s rejections of the claims.

Date: October 19, 2009

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Carl Sanders", written over a horizontal line.

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Appendix A – Claims

45. A device comprising:
a housing;
a manipulandum disposed within said housing and operable to cause a control signal to be sent to a remotely-controlled device;
an plurality of actuators coupled to said housing, said plurality of actuators corresponding to a plurality of sensors on said remotely-controlled device and operable to output a haptic sensation to at least one of said housing or said manipulandum;
a receiver disposed within said housing and operable to receive a sensor signal from-a the plurality of sensors configured to sense a state of said remotely-controlled device; and
a processor disposed within said housing in communication with said plurality of actuators and said receiver, said processor operable to generate an actuator signal associated with said state of said remotely-controlled device, said actuator signal operable to cause at least one of said actuators to output said haptic sensation.
46. A device as recited in claim 45, wherein at least one of said actuators comprises an inertial mass actuator.
47. A device as recited in claim 45, wherein said manipulandum includes a lever movable along an axis.
48. A device as recited in claim 45, wherein said control signal comprises a wireless control signal.
49. A device as recited in claim 48, wherein said wireless control signal comprises a radio frequency (RF) signal.
50. A device as received in claim 45, wherein said sensor signal from said remotely-controlled device is associated with one of: a movement of said remotely-controlled device and a contact between said remotely-controlled device and a physical object.

51. A device as recited in claim 45, wherein said remotely-controlled device comprises:
a transmitter in communication with said sensor.
52. A device as recited in claim 51, wherein said sensor comprises a contact sensor.
53. A device as recited in claim 51, wherein said sensor comprises a pressure sensor.
54. A device as recited in claim 51, wherein said sensor comprises an accelerometer.
55. A device as recited in claim 45, wherein said manipulandum comprises a throttle control.
56. A device as recited in claim 45, wherein said manipulandum comprises a directional control.
57. A device as recited in claim 45, wherein said remotely-controlled device comprises a remotely-controlled toy.
58. A device as recited in claim 45, wherein said remotely-controlled device comprises a remotely-controlled car.

Appendix B – Evidence

None.

Appendix C – Related Proceedings

None.